



Studying Catfish Creek

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Teaching content area(s): Science, Social Studies, Math
School: Cascade Jr./ Sr. High School
Extern host site: Dubuque County Conservation

Part I: Overview of Business

Swiss Valley Nature Preserve was established in the mid 1970’s. The preserve is home to over 400 acres of diverse flora and fauna, and the 10 miles of trails allows you to see all of it. Dubuque County Conservation manages this preserve and 15 other county parks. Parks are managed by 11 Rangers, 3 natrualists, and over 20 seasonal workers.

Part II: Job Specifics

This summer I worked with naturalists to develop programs and events for children and young adults. Our ultimate goal was to reach the general public and educate them about the beautiful parks and all they have to offer. Our day’s are never the same; we may be teaching one day and kayaking stretches of the Maquoketa the next. However, regaurdless of what we were doing on a daily basis, we were always working to protect this unique ecosystem.

Part III: Introduce the Problem

Seventh and Eighth grade students will assist rangers and naturalists in conducting a stream study. The idea is that students will become citizen scientist and assist in collecting data on the current state of the stream. Catfish Creek is one of the best trout streams in all of Iowa, and it’s vital that the well being of the stream is maintained. Students will collect macroinvertebrates, conduct various water quality tests, and analyze data to determine the pollution level of the stream. The problem comes into play when students will need to investigate possible sources of the pollution. They will need to search and research possible reasons for the pollution and develop solutions fo reduce the effects.

Part IV: Background

In order to be successful students will need to understand the relationship between biotic and abiotic factors. The relationship amongst all things in a given ecosystem is a delicate balance. Students will need to understand the life cycles of macroinvertebrates and their ability to withstand pollution and the proceedures for conducting water quality tests. Additionally, the concept of a watershed is vital. Pollution often permeates from further up the watershed and students need to realized that all of the water ways in an area are connected.

Part V: Business Solution

If the stream data collection comes back with a higher levels of pollution than naturalists would like to see, the investigation begins. Identifying the source of pollution is the first step. This requires investigating further up the watershed. Once the source or sources of pollution are identified, it all becomes about education. Rangers and natrualists strive to educate the public on their impact on the enviornment and just how crucial it is to maintain the ecosystem.

Part VI: Student Solutions

Students will most likely identify farms as a major source for pollution. Spraying crops and hog confinements tend to be the largest offenders. This will hit close to home for many students as they have grown up around farms their whole life. Research will likely lead them to responsible animal husbandry practices and the importance of spraying with the right strength/ degree of pesticide.